

# **INTERACTIONS & ECOSYSTEMS**

## **Topic 1.2 – Interactions Among Living Things**

# ECOLOGY - Symbiosis

## *Symbiotic Relationships*

When two species live closely together in a relationship that lasts over time symbiosis occurs. There are three forms of symbiosis:

**Mutualism** - occurs when there is a relationship between two different organisms, in which each partner benefits from the relationship. Examples include:



Mutualism  
between plants  
and their herbivore



3-way Mutualism between an ant,  
a butterfly caterpillar,  
and an acacia plant

**Parasitism** - occurs when there is a relationship between two different organisms, in which one partner benefits from the relationship, while the other partner is harmed. Typically, the partner that benefits (the *parasite*), lives on or in the other organism (the *host*), and feeds on it. Examples include:



Aphid mummy  
- the result of parasitism



A Kalahari barking gecko  
is crucified by a Shrik.  
Stored as a cache  
for a later meal.

# ECOLOGY - Symbiosis

**Commensalism** - occurs when there is a relationship between two different organisms, in which one partner benefits from the relationship, while the other neither benefits, nor is harmed. Examples include:



*Anemonefishes  
dwell among the tentacles  
of Tropical Sea Anemones*



*Insects and Flowers  
Both partners apparently  
benefit from the relationship,*

**Symbiotic relationships** are only a few ways that organisms interact with one another within an ecosystem. Other interactions may involve the physical changing of the ecosystem by the organisms living in it and interacting with parts of it. Like when a family of beavers makes a dam, the stream below the dam dries up, killing the water organisms that need the water to survive.

Above the dam, a pond changes the habitat and limits the kinds of organisms that can survive there. For every action in an ecosystem there is a resulting effect and reaction, which will change the make-up of the ecosystem in some way.

**Adaptation** is how organisms respond to their environment

Over many generations offspring will inherit the characteristics needed to survive and thrive.

IMPORTANT!!! The changes that occur are both physical and behavioural, but are not chosen.